Total No. of printed pages = 7

PY 132801

Roll No. of candidate | | | | | | | | | | |

2020

B.Pharm 8th Semester Regular End-Term Examination

PHARMACEUTICS –VII (Pharm. Tech. III)

Full Marks – 50 Time – Two hours

The figures in the margin indicate full marks for the questions.

Answer Q.No. 1 is compulsory and answer any three from the rest.

1. Answer the following (any five questions) : (5 × 1 = 5)

   (i) The melting point is determined by
   - (a) XRD
   - (b) DSC
   - (c) FT-IR
   - (d) All

   (ii) Which of the following is correct?
   - (a) Metastable polymorph represents high energy state and high aqueous solubility
   - (b) Metastable polymorph represents low energy state and high aqueous solubility
   - (c) Metastable polymorph represents high energy state and low aqueous solubility
   - (d) None of the above

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(iii) The conversion of metastable to stable form can be prevented by

(a) Size reduction

(b) Dehydration of molecule environment

(c) Decreasing the Viscosity

(d) All of the above

(iv) The following polymer is soluble in pH above 6 include

(a) Eudragit RS 100

(b) Eudragit RL 100

(c) Eudragit S 100

(d) Eudragit RLPO

(v) The stress testing is conducted by changing the accelerated temperature to ————degree increment

(a) 5°

(b) 10°

(c) 2°

(d) All of the above

(vi) Solid state stability to oxidation is determined by exposing the atmosphere to

(a) 100% O_2

(b) 50% O_2

(c) 40% O_2

(d) 20% O_2

(vii) The core material in microencapsulated product is of

(a) active constituents stabilizers, diluents excipients, and release-rate retardants or accelerators

(b) Liquids or solids

(c) Dispersed or dissolved material

(d) All of the above

(viii) The solubility obtained in acid for weakly acidic drug is called

(a) Intrinsic solubility

(b) Extrinsic solubility

(c) Ionic solubility

(d) Micellar Solubilization

(ix) The preferred value for drug selection in extended release drug delivery system should be

(a) >100 Dalton

(b) <500 Dalton

(c) <10 Dalton

(d) >500 Dalton

(x) PEGylation is done to improve the property of

(a) Nanoparticles

(b) Implants

(c) Ocuserts

(d) Osmotic pump

2. Answer the following questions. (Answer any three) : $(3 \times 15 = 45)$

(a) (i) Match the following : $(5 \times 1 = 5)$

(A)	Melting	(1)	characteristics of polymer
(B)	Dielectric constant	(2)	Implants
(C)	Glass transition temperature	(3)	Chemical stability
(D)	pH solubility profile	(4)	Measure solvent polarity
(E)	Parenteral controlled release	(5)	Endothermic

(ii) Write the objectives and goals of pre-formulation studies. (3)

(iii) Write the influence of crystal properties on bioavailability of drugs. (3)

(iv) What is Car's Index? Give its significance. (4)

(b) (i) Write the factors influencing the extended release drug delivery system. (4)

(ii) What are the advantages and disadvantages of Extended release drug delivery system? (5)

(iii) Explain any two designs of extended release formulations. (6)

(c) (i) How will you improve the stability of liposomal formulations? Write the various application of liposomal formulation in medical science. (3+4=7)

(ii) Write the types and application of IUD's. (4)

(iii) Write the ideal properties of polymers for parenteral controlled release system. (4)

(d) Answer the following questions : (3+4+4+4=15)

(i) Extended release and delayed release formulations.

(ii) Spray drying and spray congealing technique.

(iii) Osmotic pump and its applications.

(iv) Influence of dielectric constant in drug stability.

(e) (i) Explain the method of drug excipient compatibility studies by DSC indicating various physical transition caused by phase changes with diagram. (6)

(ii) Outline the basic components of Transdermal Drug Delivery system. Enlist the evaluation parameters of TDDS. (5)

(iii) Name the polymers for controlled release drug delivery system. (4)

(f) (i) Outline the reason of microencapsulation. What are the basic mechanisms of drug release from microcapsules? Write the composition of core material in microencapsulation. (3+3+2=8)

(ii) Explain the steps involved in co-acervation-phase separation process. Give examples of coating materials used in this technique. (5+2=7)

(g) (i) Write the influence of ionic strength and common ion effect on drug stability. (7)

(ii) Why determination of drug partition co-efficient is necessary in pre-formulation studies? (4)

(iii) Write the application of nanoparticles in drug delivery. (4)

(h) Write short notes on:

(i) Solid state stability studies

(ii) Evaluation of microcapsules

(iii) Resealed erythrocytes

(iv) Influence of temperature on drug stability. (4+4+4+3=15)

(i) (i) Write a note on 'Solution phase' stability testing of drug product in preformulation study. (5)

(ii) Explain the difference between amorphous and crystalline solids with example. Outline the application of polymorphism in pharmacy. (2+3=5)

(iii) Outline the storage requirements in stability studies as per ICH. (5)

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